

REMARKS

Applicants previously presented claims 47-68, with claims 52, 55, 59, 61, 65 and 67 withdrawn. The above-identified Office Action rejected all of the pending claims. By this amendment, Applicants have amended claims 47-50, 54-64, 66 and 68 to further clarify the subject matter regarded as the invention. Accordingly, claims 47-51, 53, 54, 56-58, 60, 62-64, 66 and 68 remain pending. Applicants respectfully request that the Examiner reconsider the application in light of the amendments and the remarks expressed herein.

112 Rejection

Claims 47-51, 53, 54, 56-58, 60, 62-64, 66 and 68 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for allegedly failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The Office Action asserted that "independent claims 47, 57 and 63 [has] mention of 'at least two rules' without a descriptive mentioning of what they are, thus making the claims indefinite." Applicants respectfully disagree.

In Applicants' claimed invention, the at least two rules help determine which additional materials to present to the user. One of ordinary skill in the art would have understood the meaning of the term "rules", particularly in view of the specification, which has numerous examples on "rules", such as the following:

[0017.01] In one preferred embodiment, as shown in FIG. 8, the inference engine can resolve relationship rules that are in conflict, or are not fully consistent. For example,

Rule 1: If a student is weak in algebra, then the student is weak in geometry.

Rule 2: If a student is weak in geometry, then the student is weak in trigonometry.

The inference engine, based on rules 1 and 2, derives Rule 3:

Rule 3: If a student is weak in algebra, the student must be weak in trigonometry. Conversely, if a student is strong in trigonometry, the student must be strong in algebra.

Rule 4: A student strong in trigonometry may not be strong in algebra.

The derived rule 3 is in conflict with rule 4. Then, the inference engine derives and adds the following rule as one of the relationship rules:

Rule 5: If a student is strong in trigonometry, but there is no data, latest or prior-to-the-latest, to show the student's ability in algebra, the student should work on algebra next. In the future, this new rule takes precedence over the conflicting rules. With rule 5 applied before rules 1 and 2, rule 3 will not be derived.

The Office Action also asserted that "It is unclear as to what and how the at least two rules 'having a conflict in view of an assessment of the user'. It is thus impossible to have a proper understanding of the invention as claimed and provide appropriate interpretations therefor." Again Applicants respectfully disagree.

In the claimed invention, the at least two rules, by themselves, may or may not have a conflict. But the claim language, as amended, states that if the at least two rules have a conflict in view of an assessment of the user, resolve the conflict by generating another rule. There are many examples in the specification supporting such claim languages, such as in the following:

[0017.03] In another preferred embodiment, the inference engine can resolve one or more relationship rules in conflict with the contents in a test results table, such as overall scores. In one preferred embodiment, rules in conflict are disabled. For example, with the above rule 1 to rule 3 still active:

The student's overall scores indicate that the student is strong in trigonometry, but weak in algebra. Such scores are in conflict with rule 3. Under such a situation, the inference engine would disable rule 1 for this student. Without rule 1, the engine will not be able to derive rule 3, and there will be no rules in conflict with the overall scores.

[0017.04] Reshuffling the rules, such as rules 1, 2 and 4 above, can also resolve the conflict among the rules and the contents in the test results table, such as the overall scores.

[0017.05] Another preferred way to resolve conflicts is to associate a credit with each rule. The credit is advanced by a certain amount if its corresponding rule is used to generate a recommendation. However, the credit of a rule is decremented by another amount if the rule is found to be in conflict with another rule or with the contents in the test results table. In one preferred embodiment, the increment and the decrement amount are the same. In another preferred embodiment, either the increment or the decrement amount is zero. The order of application of rules is based on the credits of the rules--a rule with a larger credit is applied before a rule with a smaller credit.

[0017.06] Yet another preferred approach to resolve a conflict with the contents in the test results table is to add a new rule, which has precedence over non-new rules. Based on the above example, to prevent conflict with rules 1-3, the following new rule is added:

If a student is strong in trigonometry, but weak in algebra, the student should work on algebra.

In view of the above explanation as to why there is no ambiguity in the claim language, Applicants respectfully request that the 112 rejection of these claims be reconsidered and withdrawn.

101 Rejection

The Office Action rejected claims 47-51, 53, 54, 56-58, 60, 62-64, 66 and 68 under 35 U.S.C. 101 as being directed to non-statutory subject matter, particularly based on *In re Bilski, et al.* But, as stated in the Office Action, based on *In re Bilski*, if method claims are explicitly tied to some machine or article of manufacture, the requirements of 35 U.S.C. 101 would have been met. Applicants submit that such limitations are clearly met by all the pending claims as amended.

Machine or article of manufacture recited in claims 47 and 63 include, for example, "a computer-implemented method", "allowing the user to access materials related to a subject to be presented via a presentation device", "based on at least two rules retrieved from the storage device", "determining, by a computing device, whether ...", "the computing device being coupled to the storage device". Claim 57 also includes similar terms in a "computer readable storage medium comprising a plurality of instructions for helping a user learn, the plurality of instructions, when executed by a computing device ...". All of the other claims depend on either claims 47, 57 or 63. With all of the claims explicitly tied to some machine or article of manufacture, Applicants respectfully request that the 101 rejections of these claims be reconsidered and withdrawn.

102 and 103 Rejections

Claims 47-51, 53, 54, 56-58, 60, 62-64, 66 and 68 were rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over

Success Maker Math Concepts and Skills, Teacher's Handbook, Curriculum Corporation, February 1993 (hereinafter "MC&S"). The Office Action also cited Kerwin to reject claims 50, 58 and 64, but has not included Kerwin under the 103 rejection, nor has the citation of Kerwin been included. In the following response, Kerwin is assumed to be included in the 103 rejection; and Kerwin is assumed to be US Patent 5,616,033. For at least the reasons discussed below, Applicants respectfully traverse this rejection.

As admitted by the Office Action, MC&S "fails to disclose a conflict upon the rules that governed the selection of the next material of study", which Applicants agree. Then the Office Action erroneously asserted the reason behind MC&S's failure by stating that "because computer algorithms cannot encounter conflicting parameters; there is always a second set of rules to follow if the program encounters an impasse. 'If then else' statements always have a way out and conflicting data always has another direction to take as is in the applicant's disclosure."

The issue is how a computing system is designed to react. It seems that in MC&S, its system is designed so that only one rule is applicable to each situation. So the different rules in MC&S do not have any conflicts. Take its Table 2, which Applicants have reproduced below.

CRITERIA FOR MOTION DECISIONS	MOTION DECISIONS
Excellent student performance	Pass the current skill. Select and present the next skill.
Good student performance	Present another exercise from the current skill in a 'mixed presentation' format ...
Lower student performance: needs more focused practice	Present another exercise from the current skill in 'sequential practice' format ...
Low student performance	Present the associated tutorial for the skill, if available
Continued low student performance after all types of instruction above	Present a series of prerequisite skills to provide remediation for the student
Student has not yet reached mastery after 20 exercises	Mark the skill for review....
Student has received all types of instructions as above but has not mastered the skill	Complete the current skill without mastery. Move the student to the next skill

As shown in the above table, a student will be allocated into one of the boxes depending on the student performance. In other words, depending on the student performance, one specific rule (or box) becomes applicable, and that rule will be applied. Thus the different rules in such an approach will not have conflicts. But this is just one approach in which a computing system can be designed to react. There are other approaches.

In the claimed invention, multiple rules can be applicable to a situation. As an illustration, take the following two rules, designated R1 and R2:

(R1) if x is 1 and y is 1 then f(x and y) is 2

(R2) if x is 1 and y is 1 then f(x and y) is 3

Assume x is 1 and y is 1. A computing system can go through the rules sequentially and apply them one after the other. Such an approach may not be optimum. Another approach is to check both rules to see which one is applicable. In this case, both R1 and R2 are applicable, and are applied concurrently. With the results from both R1 and R2 being different, the two rules are in conflict, and the computing system needs to resolve the conflict.

Such conflicting rules do not arise in MC&S. In MC&S, depending on the student performance, one specific rule becomes applicable, and the MC&S system will apply that rule. So there will not be conflicts among the rules.

In Applicants' claimed invention, the at least two rules themselves may or may not have a conflict. However, in view of an assessment of the user, a piece of information that previously may not be available, a conflict arises.

MC&S, not only has not taught or suggested rules having a conflict, MC&S has not taught or suggested rules having a conflict in view of an assessment of a user. These deficiencies are acknowledged by the Office Action.

Moreover, in the claims as amended, Applicants further claim that to resolve the conflict, another rule is generated. With MC&S not teaching or suggesting "with the at least two rules having a conflict in view of an assessment of the user", MC&S could not have taught or suggested "resolving the conflict by generating another rule to help determine the additional materials to present to the user".

For at least the reasons specified above, Applicants respectfully request that the 102 and 103 rejections of independent claims 47, 57 and 63 be reconsidered and withdrawn.

Dependent claims 48-51, 53, 54, 56, 58, 60, 62, 64, 66 and 68 depend from and add additional features to their corresponding independent claims 47, 57 and 63. Similarly, Applicants assert that these claims are patentable for at least the reasons

discussed above with regards to claims 47, 57 and 63, as well as for the features that they add.

For illustration purposes, the following discusses rejections regarding features in some of the dependent claims.

Regarding claim 49, it includes the limitations of transmitting to the presentation device via a network that includes a private network and a public network. As support for its rejection, the Office Action cited the first paragraph on page 162 of MC&S, which is reproduced below:

As discussed in "The Teacher's Role" in this handbook, Math Concepts and Skills can be modified to meet the needs of individual students or school requirements. The modifications are achieved by using the Management System to change the default values of the enrollment options for the course. This appendix shows the enrollment options and default values as they appear on the Modify Course menus in the Management System.

Nowhere can one find in the paragraph any mentioning of having at least some of the accessed materials transmitted via a network to a presentation device to be presented to the user, let alone the network including a private and a public network.

Regarding claims 50, 58 and 64, the Office Action admitted that MC&S does not teach additional materials to be presented to the user being determined depending on a time elapsed from when certain materials have been presented to the user. To remedy the admitted deficiency, the Office Action cited col. 4:63 to col. 5:3 of Kerwin.

Initially, it is submitted that there is no motivation to combine MC&S with Kerwin in the manner that the Office Action proposes. Even if combining the two references were appropriate, which Applicants respectfully disagree, the above-noted serious deficiencies of MC&S remain.

Moreover, contrary to what was stated in the Office Action, column 4, line 63 to column 5, line 3 of Kerwin do not teach or suggest additional materials to be presented to the user being determined depending on a time elapsed from when certain materials have been presented to the user. Rather, in that section, Kerwin teaches immediately repeating a question if a trainee gets the question wrong, until the trainee makes the correct selection.¹ Kerwin also teaches that its system "will subsequently repeat the

¹ See column 4, lines 59-63 of Kerwin.

situation/simulation at least once ... at the discretion and under the control of the ... training/system administrator.”² There is no teaching or suggestion of making a decision based on a time elapsed from when certain materials having been presented. Though Kerwin has no such teaching, the Office Action asserted that the claim limitations were obvious because there were only limited options to select: “there are a limited number of triggers that could be used to determine[d] the scheduling of the repeated subjects”. Non-obviousness does not require infinite number of options.

Applicants submit that there are millions of triggers regarding repeating to a user the presentation of specific materials. To illustrate the numerous possibilities, Applicants put forward the following example:

- All specific materials are presented again
 - Among them, some are presented three times, others four times
 - Among those presented three times, some are presented sooner than others
 - For those that are presented sooner, some are presented at different paces than others, such as at a slower pace
 - For those presented at a slower pace, some are presented in different ways, such as one visually, the other orally, a third based on scenario, a fourth via hands-on experiment
 - For those presented visually, one is via a 17” screen, and the other via a cell phone’s small screen
 - For those via a 17” screen, the materials are timed to be presented to a number of users simultaneously in a collaborative manner
 - And so on...

² See column 4, line 63 – column 5, line 3 of Kerwin.

The above is just one line of options, with each branch capable of having many additional possibilities. Some of the above approaches may be difficult to implement, but they just serve as an illustration of numerous possibilities from just one example.

As is evident at least from the example shown above, there can be millions of triggers regarding repeating specific materials to be presented to a user. Stated another way, there can be millions of criteria upon which a specific area can be selected for the user to work on for a second time.

In a recent decision, the Court, as shown in the following excerpt, explicitly stated that an obvious to try rejection requires the prior art to give some guidance, such as which parameters are critical or which possible choices are likely to be successful. An invention is not obvious to try if the prior art does not guide an inventor toward a particular solution.

“First, an invention would not have been obvious to try when the inventor would have had to try all possibilities in a field unreduced by direction of the prior art. When “what would have been ‘obvious to try’ would have been to vary all parameters or try each of numerous possible choices until one possibly arrived at a successful result, where the prior art gave either no indication of which parameters were critical or no direction as to which of many possible choices is likely to be successful” an invention would not have been obvious. ... This is another way to express the KSR prong requiring the field of search to be among a “finite number of identified” solutions. ... It is also consistent with our interpretation that KSR requires the number of options to be “small or easily traversed.” ... Second, an invention is not obvious to try where vague prior art does not guide an inventor toward a particular solution. A finding of obviousness would not obtain where “what was ‘obvious to try’ was to explore a new technology or general approach that seemed to be a promising field of experimentation, where the prior art gave only general guidance as to the particular form of the claimed invention or how to achieve it.”...” Bayer Schering Pharma v. Barr Laboratories (Fed. Cir. Aug. 5, 2009)

Though there are numerous triggers upon which repetition can be based, in Kerwin, a situation/simulation gets repeated immediately (if the trainee is wrong), or gets repeated at the discretion of a trainer/administrator. Kerwin has not provided any guidance directing towards Applicants’ claimed limitations as being critical or likely to be successful. Claims 50, 58 and 64 cannot be rejected based on hindsight. With no teaching or guidance in Kerwin, the Office Action was erroneous to assert that Applicants’ claim limitations were obvious.

Regarding claim 51, the Office Action cited Table 2 in MC&S as support for its rejection, arguing that in MC&S, the "system will no longer repeat subject after all available tries have been presented." As described above, there can be millions of different types of tries one can make. And Table 2 pertains to a specific decision process in view of student performance. But Table 2 does not teach or suggest additional materials to be presented to the user being determined depending on a time elapsed from when certain materials have been presented to the user, let alone materials being able to be repeated, with such materials no longer selected if the time elapsed is more than a predetermined duration of time.

Regarding claims 56, 62 and 66, the Office Action erroneously asserted that MC&S teaches resolving the conflict between the at least two rules involving favoring one of the rules over another one of the rules because its Table 2 shows a set of rules with a hierarchy. As explained above, Table 2 does not teach or suggest rules in conflict, let alone resolving the conflict involving favoring one rule over another one of the rules.

For at least the reasons set forth above, Applicants respectfully request that the Examiner reconsider and withdraw the rejections of all the pending claims.

Restriction Requirement on Dependent Claims

Claims 52, 55, 59, 61, 65 and 67 have been withdrawn from consideration in view of a restriction requirement. If the Examiner, upon consideration, determines that the independent claims from which the withdrawn claims depend on are found allowable, then in view of MPEP 821.04, Applicants respectfully request that the withdrawn dependent claims be rejoined. Applicants further respectfully request allowing the withdrawn dependent claims in view of the burden of the restriction requirement to Applicants.

In addition, a number of similar limitations in the withdrawn claims have previously been examined. For example, to reject a previously-submitted claim 38, on page 6 of a previous Office Action dated March 17, 2008, the Patent Office stated, "Regarding claims 38 and 43; MC&S discloses a computer method comprising generating materials on the subject for the user to learn, (p. 9: generation of exercises)."

Then in a subsequent Office Action, the Patent Office withdrew from examination claim

52. Both claims 38 and 52 are reproduced below:

38. The method as set forth in claim 13 further comprising generating materials on the subject for the user to learn.

52. A computer-implemented method as recited in claim 47 further comprising generating materials on the subject for the user to learn.

Irrespective of whether the rejection on claim 38 was correct, limitations in claim 52 are similar to limitations in claim 38, which have previously been examined.

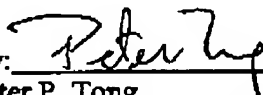
Thus, Applicants sincerely request that the Examiner allow the withdrawn dependent claims if the independent claims from which they depend are allowed.

Conclusion

It is submitted that claims 47-51, 53, 54, 56-58, 60, 62-64, 66 and 68 are patentably distinct from the cited references, for at least the reasons set forth above. Reconsideration and withdrawal of the outstanding rejections and issuance of a Notice of Allowance are earnestly solicited.

In the event that the Examiner, upon reconsideration, determines that an action other than an allowance is appropriate, the Examiner is requested and authorized to telephone Applicants' undersigned representative prior to taking such action, if the Examiner feels that such a telephone call will advance the prosecution of the present application.

Respectfully submitted,

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